

#Fischer rat parameters (See Model Parameters Spreadsheet for Documentation)

parms <-c(

BW = 0.25 , # Body weight (kg)
QPC = 22.4 , # Unscaled Alveolar Vent (L/h/kg^{0.75})
QCC = 18.7 , # Unscaled Cardiac Output (L/h/kg^{0.75})

#FRACTIONAL BLOOD FLOWS TO TISSUES

QLC = 0.183 , # Flow to Liver as % Cardiac Output (unitless)
QFC = 0.07 , # Flow to Fat as % Cardiac Output (unitless)
QSC = 0.278 , # Flow to Slow as % Cardiac Output (unitless)
QKC = 0.14 , # Flow to Kidney as % Cardiac Output (unitless)

#FRACTIONAL VOLUMES OF TISSUES

VLC = 0.0366, # Volume Liver as % Body Weight (unitless)
VLUC = 0.005 , # Volume Lung as % Body Weight (unitless)
VFC = 0.1 , # Volume Fat as % Body Weight (unitless)
VRC = 0.04644 , # Volume Rapid Perfused as % Body Weight (unitless)
VSC = 0.4 , # Volume Slow Perfused as % Body Weight (unitless)
VKC = 0.0073 , # Volume Kidney as % Body Weight (unitless)

#PARTITION COEFFICIENTS PARENT

PL = 1.58 , # Liver/Blood Partition Coefficient (unitless)
PLU = 1.85 , # Lung/Blood Partition Coefficient (unitless)
PF = 16.99 , # Fat/Blood Partition Coefficient (unitless)
PS = 0.60 , # Slow/Blood Partition Coefficient (unitless)
PR = 2.29 , # Rapid/Blood Partition Coefficient (unitless)
PB = 7.3 , # Blood/Air Partition Coefficient (unitless)
PK = 2.29 , # Kidney/Blood Partition Coefficient (unitless)

#KINETIC CONSTANTS

MW = 88.5 , # Molecular weight (g/mol)

#Revised Metabolism Constants based on Yoon report

Metabolism in Liver

VMAXC = 99.0 , # Scaled VMax for Oxidative Pathway:Liver (mg/h/BW^{0.75})
KM = 99.0 , # Km for Oxidative Pathway:Liver (mg/L)

Metabolism in Lung

VMAXCLU = 99.0 , # Scaled VMax for Oxidative Pathway:Lung (mg/h/BW^{0.75})
KMLU = 99.0 , # Km for Oxidative Pathway:Lung (mg/L)
KFLUC = 0.0 , # Pseudo-first order clearance in lung (L/h/BW^{0.75})

Metabolism in Kidney

VMAXCKid = 99.0 , # Scaled VMax for Oxidative Pathway:Kidney (mg/h/BW^{0.75})
KMKD = 99.0 , # Km for Oxidative Pathway :Kidney (mg/L)
KFKIC = 0.0 , # Pseudo-first order clearance in Kidney (L/h/BW^{0.75})

#DOSING INFORMATION

TSTOP = 7.0 ,
CONC = 0.0 # Initial concentration (ppm)

